

## NI 9201

### 8-Ch, $\pm 10$ V, 500 kS/s, 12-Bit Analog Input Module, C Series

- 8 analog inputs,  $\pm 10$  V input range
- 500 kS/s aggregate sampling rate
- 12-bit resolution, single-ended inputs, screw terminal or D-Sub connectors
- Hot-swappable operation; overvoltage protection; isolation
- NIST-traceable calibration
- $-40$  to  $70$  °C operating range



## Overview

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The NI 9201 is a C Series module for 8-channel analog input at a maximum aggregate rate of 500 kS/s. The NI 9201 represents a good combination of channel count and speed at a low price for an economical multifunction system.

As with the majority of C Series modules, the NI 9201 is protected from harmful voltage spikes of up to 2,300 Vrms. This means that no harmful voltage within the isolation rating can harm other modules in the system, the chassis, or any connected computer equipment. In addition to the absolute protection from the isolation, there is up to 100 V of overvoltage protection for errant signal connection or unexpected outputs to the individual channels.

There are two connector options for the NI 9201 – a 10-position screw terminal connector for direct connectivity and a 25-position D-Sub connector. The industry-standard 25-position D-Sub connector provides low-cost cabling to a wide variety of accessories available from NI or other vendors. A number of vendors also provide custom D-Sub cable fabrication services, and can provide cables with a pin-out that matches your exact application needs.

NI recommends the NI 9932 strain-relief connector accessory for the NI 9201. The NI 9934 (or other 25-pin D-Sub connector) is required for use with the NI 9201 with D-Sub module. The NI 9934 includes a screw-terminal connector with strain relief as well as a D-Sub solder cup backshell for creating custom cable assemblies.

## Specifications

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### Specifications Documents

- Specifications
- Data Sheet

### Specifications Summary

#### General

<b>Product Name</b>	NI 9201
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<b>Product Family</b>	Industrial I/O
<b>Form Factor</b>	CompactDAQ , CompactRIO
<b>Part Number</b>	779013-01
<b>Operating System/Target</b>	Real-Time , Windows
<b>Measurement Type</b>	Voltage
<b>Isolation Type</b>	Ch-Earth Ground Isolation
<b>RoHS Compliant</b>	Yes
<b>Product Name</b>	NI 9201 D-Sub
<b>Product Family</b>	Industrial I/O
<b>Form Factor</b>	CompactDAQ , CompactRIO
<b>Part Number</b>	779372-01
<b>Operating System/Target</b>	Windows , Real-Time
<b>Measurement Type</b>	Voltage
<b>Isolation Type</b>	Ch-Earth Ground Isolation
<b>RoHS Compliant</b>	Yes
<b>Analog Input</b>	
<b>Channels</b>	8 , 0
<b>Single-Ended Channels</b>	8
<b>Differential Channels</b>	0
<b>Resolution</b>	12 bits
<b>Sample Rate</b>	500 kS/s
<b>Max Voltage</b>	10 V
<b>Maximum Voltage Range</b>	-10 V , 10 V
<b>Maximum Voltage Range Accuracy</b>	0.053 V
<b>Minimum Voltage Range</b>	-10 V , 10 V
<b>Minimum Voltage Range Accuracy</b>	0.053 V
<b>Simultaneous Sampling</b>	No
<b>Channels</b>	8 , 0
<b>Single-Ended Channels</b>	8
<b>Differential Channels</b>	0
<b>Resolution</b>	12 bits

<b>Sample Rate</b>	500 kS/s
<b>Max Voltage</b>	10 V
<b>Maximum Voltage Range</b>	-10 V , 10 V
<b>Maximum Voltage Range Accuracy</b>	0.053 V
<b>Minimum Voltage Range</b>	-10 V , 10 V
<b>Minimum Voltage Range Accuracy</b>	0.053 V
<b>Simultaneous Sampling</b>	No
<b>Analog Output</b>	
<b>Channels</b>	0
<b>Channels</b>	0
<b>Digital I/O</b>	
<b>Bidirectional Channels</b>	0
<b>Input-Only Channels</b>	0
<b>Output-Only Channels</b>	0
<b>Number of Channels</b>	0 , 0 , 0
<b>Bidirectional Channels</b>	0
<b>Input-Only Channels</b>	0
<b>Output-Only Channels</b>	0
<b>Number of Channels</b>	0 , 0 , 0
<b>Counter/Timers</b>	
<b>Counters</b>	0
<b>Counters</b>	0
<b>Physical Specifications</b>	
<b>Length</b>	9 cm
<b>Width</b>	2.3 cm
<b>I/O Connector</b>	Screw terminals
<b>Minimum Operating Temperature</b>	-40 °C
<b>Maximum Operating Temperature</b>	70 °C
<b>Minimum Storage Temperature</b>	-40 °C
<b>Maximum Storage Temperature</b>	85 °C
<b>Length</b>	9 cm

Width	2.3 cm
I/O Connector	25-pin D-Sub
Minimum Operating Temperature	-40 °C
Maximum Operating Temperature	70 °C
Minimum Storage Temperature	-40 °C
Maximum Storage Temperature	85 °C
<b>Timing/Triggering/Synchronization</b>	
Triggers cDAQ Chassis	No
Triggers cDAQ Chassis	No


## Pricing

Select one of the following options for product configuration and pricing:

Select Module and Accessories Below »
OR
Configure and Price a Complete CompactDAQ/CompactRIO System »



Module



Accessories



Chassis, Controllers, Modules



Software & Services

### Step 1: Verify Device and Quantity Selection

Part Number	Description	Est Ship Days	US Dollars*	Qty
	NI 9201			
779013-01	Screw Terminal NI Recommended	--	For price, select country	
779372-01	D-Sub connector	--	For price, select country	

Each NI 9201 requires: 1 Connectivity Accessory



NI 9201



Connectivity Accessory

Each NI 9201 with DSub requires: 1 Connectivity Accessory



NI 9201 with DSub



Connectivity Accessory

**Step 2: Select Connectivity Accessory**

Part Number	Description	Est Ship Days	US Dollars*	Qty
Screw Terminals				
779017-01	NI 9932 Backshell with 10-pos connector block (qty 1) <i>NI Recommended</i>	--	For price, select country	

**Step 3: Select Optional Accessories**

Part Number	Description	Est Ship Days	US Dollars*	Qty
Connectivity Accessories				
779105-01	NI 9936 - 10 screw-terminal plugs for any 10-position screw-terminal module	--	For price, select country	

\* You have selected the United States as the country where you will use the product(s). Pricing may have changed since you printed this document on 02/22/2011. Please visit [ni.com](http://ni.com) to see current pricing.

**Step 4: Place Order or Obtain Quote**

**Step 2: Select Connectivity Accessory**

Part Number	Description	Est Ship Days	US Dollars*	Qty
Screw Terminals				
779104-01	NI 9934 25pin D-Sub connector kit <i>NI Recommended</i>	--	For price, select country	

**Step 3: Select Optional Accessories**

Part Number	Description	Est Ship Days	US Dollars*	Qty
Cable				
192568-01	SH25F-25M-1 25-Pin Female to Male Shielded I/O Cable, 1 m	--	For price, select country	
192568-02	SH25F-25M-2 25-Pin Female to Male Shielded I/O Cable, 2 m	--	For price, select country	

Connectivity Accessories				
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\* You have selected the United States as the country where you will use the product(s). Pricing may have changed since you printed this document on 02/22/2011. Please visit [ni.com](http://ni.com) to see current pricing.

## Step 4: Place Order or Obtain Quote

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## Services

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### System Assurance Programs

Reduce your setup time and total cost of ownership, and get a system you can use out of the box with National Instruments system assurance programs. System assurance programs include:

- Installation and integration test of all individual hardware
- Courtesy installation of system driver sets and application development environments
- Extended warranty and calibration coverage for up to five years
- Custom documentation plus a custom restore and startup utility

This service is only available for PXI, NI CompactRIO, and NI Compact FieldPoint systems.

- Learn More about System Configuration and Deployment Services [<http://www.ni.com/services/configuration.htm>]
- Customize Your CompactRIO System [<http://ohm.ni.com/advisors/crio>]
- Customize Your Compact FieldPoint System [<http://ohm.ni.com/advisors/cfp>]
- Customize Your PXI System [<http://ohm.ni.com/advisors/pxi>]
- Talk to an Expert about Custom System Configurations [[javascript:openCallMeWindowCTA\(document.referrer,%20'US'\)](javascript:openCallMeWindowCTA(document.referrer,%20'US'))]

### Extended Warranties

National Instruments designs and manufactures all products to minimize failures, however unexpected failures can still occur. Extended warranties provide a fixed economical price at the time of system purchase, covering any repair costs for up to three years. In addition, they offer the following benefits:

- Significant cost savings compared to individual repair incidents
- Fault location, diagnostics, and repair by NI any time the system product fails
- All parts and labor costs covered as well as any adjustments needed to restore the hardware to manufacturing specifications

For more information about your warranty options:

- Learn More about Warranty Services [<http://www.ni.com/services/warranty.htm>]
- Talk to an Expert about Extended Warranties [[javascript:openCallMeWindowCTA\(document.referrer,%20'US'\)](javascript:openCallMeWindowCTA(document.referrer,%20'US'))]
- View Warranty Repair Policies [[http://www.ni.com/services/warranty\\_repair\\_policies.htm](http://www.ni.com/services/warranty_repair_policies.htm)]

### Calibration

NI recognizes the need to maintain properly calibrated devices for high-accuracy measurements. NI provides manual calibration procedures, services to recalibrate your products, and automated calibration software to calibrate many NI measurement products.

- Learn More about Calibration Services [<http://www.ni.com/services/calibration.htm>]

### Training

NI training is the fastest, most certain route to productivity with NI tools and successful application development.

- Learn More about NI Training and Certification [<http://www.ni.com/training/>]
- Find a Course Near You and View Schedules [<http://sine.ni.com/apps/utf8/nisv.custed>]

### Repair Services

Return your registered product under warranty at no additional labor and parts cost. NI offers fault location, diagnostics, and repair any time the system fails as well as any adjustments needed to restore the hardware to manufacturing specifications.

- [Learn More about Repair Services](http://www.ni.com/services/warranty.htm) [http://www.ni.com/services/warranty.htm]
- [Contact NI to Obtain a Return Material Authorization \(RMA\) Form and Shipping Instructions](http://sine.ni.com/apps/utf8/nicc.call_me) [http://sine.ni.com/apps/utf8/nicc.call\_me]
- [View Your RMA Support Request Status Online](http://www.ni.com/support/servicereq/) [http://www.ni.com/support/servicereq/]
- [Register Your Product](http://www.ni.com/register) [http://www.ni.com/register]

## Technical Support

[ni.com/support](http://www.ni.com/support/) [http://www.ni.com/support/]

## Resources

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### Additional Product Information

- [Manuals](#) (7)
- [Dimensional Drawings](#) (2)
- [Product Certifications](#) (2)

### Related Information

- [NI CompactRIO](#)
- [CompactDAQ System Advisor](#)
- [CompactRIO Technical Library](#)
- [Configure your complete CompactRIO System](#)